ABSTRACT

Disclosed in a wind rotor (1) comprising one or more blades (3) rotating around a vertical, central axis (4) within a main bearing (5), said blades being parallel to said vertical axis (4), said blades being connected via crossbars (6), said blades being disposed freely rotatably in bearings (7), and said blades being orientable by means of a wind vane (9). Said blades (3) comprise a symmetrical aerodynamic profile (8) over their entire cross-section. Said rotor comprises a primary control mechanism (11), which is controlled by said wind vane (9) and aligns said profiles (8) of said blade(s) (3) along the wind direction (10) at each point of their trajectory (13) around the central vertical axis (4), said blades being disposed on said crossbars (6), and a secondary control mechanism (12), which aligns the longitudinal axes of said profiles (8) of said blade(s) (3) to the wind (10) at each point of their trajectory (13) around the central vertical axis (4) so as to produce an optimum aerodynamic force depending on the rotation angle of the crossbars (6) with respect to the wind vane (9) and the rotation velocity of the crossbars (6).